

REMARKS

The present invention provides an improved remote control device that is capable of permitting a user to have an intelligent remote control capability over a number of different apparatus while limiting the number of user interface controls and automating a customization of the remote control device for a prioritized one of a plurality of apparatus within a transmitting range.

In the proliferation of consumer appliances and devices that permit a user to remotely interface and control such apparatus, there has been a recognized desire to provide a universal remote control device that can customize itself in a logical manner to one of a plurality of apparatuses. As noted in our recitation of related art, this has been an area of interest by relatively sophisticated engineers and scientists in this field for a number of years. The proliferation, however, of operator controls to perform ever increasing features that can be provided on such electronic apparatus has been an obstacle for an efficient and enjoyable use of the average consumer.

The present invention permits an easy customization and the capacity to add new apparatus and new features to apparatus in an economical and convenient manner. Intelligent design options have been selected, including for example, an implementation of a concept in one embodiment that assumes the proximity of a user positioning the physical location of the remote control device relative to, for example, the angular disposition or the physically shortest distance to an apparatus as most likely the apparatus that is intended to be operated by the user.

To relieve the user from burdensome control inputs, the remote control device has the capacity of generating spatial physical location information to thereby determine or detect the position of the remote control device as a point of reference. The remote control device can incorporate an apparatus specifying unit that can utilize the spatial position information and

prioritize the relative location of a plurality of apparatus capable of being controlled by a remote control device. User interface controls alone or in combination with a display screen can be customized to enter control signals characteristic of the operation at the top or first prioritized one of the plurality of apparatus.

Additionally, the user can input an override control to selectively pick the next in order of the prioritization of apparatus devices if the user wishes to vary from the automatic prioritized sequencing. For example, assume the prioritized sequencing is based on the shortest distance, the operator can then input a control to select the next apparatus in proximity by distance. As can be appreciated, other prioritizing characteristics or features can be utilized such as an apparatus that is more frequently used by a specific user than other apparatus. For example, a television may be more frequently used than a radio or stereo system, and the prioritizing predetermined conditions could be based upon a usage pattern or even the particular time of day when certain devices are more frequently used than others.

The present invention is capable of determining the one or more apparatuses that are within the transmitting unit range for receiving controlled wireless remote signals and then prioritizing such plurality of apparatus based on a design consideration such as the factors mentioned above.

As can be appreciated, the user is then provided with a fairly intelligent remote control device that simplifies and automatically customizes the remote control device to a prioritized apparatus based upon predetermined selected criterion.

The Office Action contended that the *Erekson* (U.S. Patent No. 6,622,018) is capable of anticipating Claims 1-10, 12-13 and 15 of the present invention.

The *Erekson* reference is primarily concerned with utilizing Bluetooth technology in a remote control device. *Erekson* teaches an implementation of a Bluetooth-enabled device that

can be used to remotely control compliant devices within a nominal range of 10 to 100 meters. The specification description describes the characteristics of the Bluetooth system, including the bandwidth and use of a frequency hop transceiver with packet-switching protocol as known. The Office Action specifically contended that a self-positioned detecting unit capable of generating self-positioning information was taught in Column 7, Lines 48-67 and Column 8, Lines 24-41.

Applicant respectfully traverses this contention. Column 7, Lines 48-67 teaches an implementation of the Bluetooth system with a micro controller to run software that simply discovers and communicates with other Bluetooth devices via a Link Manager Protocol (LMP) set of services.

In this regard, the compliant or slave devices are placed in a standby mode that can “listen” for messages at a regular rate that can be altered with various different power saving conditions. A connection is made between such devices when a page message directed to a specific address of a device or an inquiry message seeking to poll for Medium Access Control addresses is implemented from the master or computer system. Thus, the broadcast message is used for the purpose of discovering compliant devices that are within the range of the Bluetooth broadcast system. If compliant devices are within such range, they respond and identify themselves with characterization information.

As can be appreciated, the transmitter range of the remote control device simply defines, by a polling procedure, the compliant devices that are responsive to the wireless signal. There is no prioritizing of such compliant devices, nor is there any detection of the position of the remote control device or the capacity of generating a self-position information signal indicating such a position. Compliant devices are simply woke up within the broadcasting range of the Bluetooth transmitter. Where the transmitter is physically located is not determined nor suggested in this reference. There is no triangulation algorithm, GPS algorithm or other such program since the

complaint devices are simply displayed on a screen as shown in Figure 7, and consistent with the flow chart of Figure 11, the user “can then select one of the remote devices by touching stylus element 90 to display device 105.” See Column 9, Lines 18-20. The *Erekson* reference then continues to disclose different ways of utilizing, for example, a stylus or other input-user device.

The only position information is simply the manual input of the stylus on one of the displayed compliant devices, for example in Figure 7. There certainly is no teaching of a positional location in a spatial sense or in any other prioritizing predetermined criterion to create a priority order for the compliant devices.

As can be seen, for example in Claim 1, the *Erekson* invention is summarized by disclosing the remote device or devices are put on the display screen in a position where contact is made with the surface of the input device which permits that particular position to be translated into a particular command for the remote device. Quite frankly, there is nothing unique with converting a display screen with indicia into a user interface control system.

Comparisons should be made with Figure 2 of our application which graphically illustrates the operation of the self-position detecting unit set forth for example, in our Claim 1 to detect the position of the remote control device and generate self-position information indicating that position. Figure 3 discloses, for example, apparatus position data based on a spatial relationship of an XYZ coordinate system, which permits an apparatus specifying unit to then automatically select one of the apparatus as the target apparatus based on the generated self-position information of the remote control device and predetermined criterion which in this embodiment, is the XYZ coordinate system for prioritizing the plurality of apparatus. This concept is alien in the teaching of the *Erekson* reference which is certainly prohibited from being either an anticipatory reference or even a teaching reference with any of the secondary references cited in the Office Action.

Claim 1 includes the following features:

[A] A self-position detecting unit operates to detect a position of the remote control device and generate self-position information indicating the position.

[B] An apparatus specifying unit operable to specify one of the apparatuses as the target apparatus, based on the generated self-position information and a predetermined criterion.

[C] A control operation detecting unit operable to detect a user operation a transmitting unit operable to transmit a remote control signal corresponding to the detected user operation.

[D] A transmitting unit operable to transmit a remote control signal corresponding to the detected user operation.

Here, the term “position” in [A] (the self-position detecting unit) is used to define a physical position or an actual position. The description “a position of the remote control device” means a position where the remote control device actually exists. If the user moves the remote control device, the position changes accordingly.

Therefore, the remote control device can detect its own actual position if moved by the user, and can specify the target apparatus based on the detected actual position.

Throughout our Specification, the use of information as to the “positions” of the remote control device and the target apparatus is described. The term “position” does not mean a virtual position on a computer network, but means an actual position. For instance, to explain the self-position detecting unit 106, the Specification describes the fact that the current position of the remote control device is calculated from actual time when each signal is received and positions of three radio wave sources that are set in advance. It is also stated that a global positioning system (GPS) may be used for calculating the position.

The *Erekson* reference only discloses a technique to specify a target apparatus by performing two-way communications among a plurality of apparatuses using Bluetooth or the

like. In this technique, MAC addresses are used for specifying the virtual position of each apparatus on the network.

However, the reference *Erekson* does not disclose a mechanism that detects a physical position of an apparatus, generates self-position information indicating the physical position, and use the information to specify the target apparatus. The Bluetooth standard defines a plurality of output levels, and also defines, for each level, a propagation range of radio waves. However, the *Erekson* reference does not describe a technique to generate positional information using the difference among the levels.

That is, the *Erekson* reference does not disclose [A] the self-position detecting unit (which “detects a position of the remote control device” and “generates self-position information indicating the position”) and [B] the apparatus specifying unit (which specifies one of the apparatuses as the target apparatus, “based on the generated self-position information”).

The Office Action further rejected Claim 14 as being obvious over a combination of *Erekson* in view of the *Larkins et al* (U.S. Patent No. 6,091,957). We have already demonstrated the inadequacies of teaching the present invention in the *Erekson* disclosure and under 35 U.S.C. §103, it would be incumbent upon the teaching in the *Larkins et al* reference to provide a teaching reference for supplementing the deficiencies of the *Larkins et al* disclosure.

It should be noted that the burden of establishing a *prima facie* case of obviousness lies with the Patent Office. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988) (stating: “The PTO has the burden under section 103 to establish a *prima facie* case of obviousness”). To establish a *prima facie* case of obviousness, (1) there must be some suggestion or motivation (either in the references themselves or in the knowledge generally available to one of ordinary skill in the art) to combine the reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference must teach or suggest all the claim limitations. See *MPEP* §§ 2142-43.

It is presumed that the *Larkins et al* reference actually is cited simply for the teaching of a GPS system or other location device that would permit a triangulation for example, of the strength of signals located with a mobile telecommunication unit such as a cell phone. *Larkins et al* basically permits a silent polling of a cellular phone by an authorized user, for example, a parent wishing to find where the child is who has a cell phone by determining the location of that cell phone. The location information is then coordinated, for example, with a map or reference system that can be conveyed to the authorized user. As noted in Column 2, Lines 37-39, the service platform can provide look up data to provide the parent with the geographical location of the child and the cell phone.

The Office Action cited Column 1, Lines 51-60 which simply acknowledges the capacity of determining a geographic location by performing triangulation calculations and also Column 2, Lines 43-60, which simply verifies the other devices that can provide such positional information.

The present invention does not purport to be an inventor of the GPS system or a triangulation measurement of signals from various cell phone transmitters to determine a geographic location. The present invention, however, utilizes such known abilities to provide the position of the remote control device in the possession of the user, then extrapolates from that positional information a prioritization of apparatus that can be controlled by signals from a remote control device in an automatic fashion that can also customize a remote control device to thereby limit the amount of user interface controls and the technical capacity and skill of the user required to operate such a device. Adding the teaching of the *Larkins et al* reference into the *Erekson* reference does not suggest this combination nor the advantages of the present invention. *Larkins et al* does not satisfy the deficiencies of the *Erekson* reference.

Similarly, the rejection of Claim 11 by a combination of *Erekson* and the *Tillgren et al* (U.S. Patent No. 6,339,706) also fails to meet the stringent requirements of a teaching reference to supplement the *Erekson* disclosure. The *Tillgren et al* reference was primarily concerned with a voice-activated remote control device, for example a phone, that would permit the driver of a car to use vocal commands to operate a cellular telephone. The Office Action cited Column 4, Lines 47-65 for purportedly the ability to use a time unit for keeping time to determine the distance of an apparatus for a remote control device. *Tillgren et al*, however, does not teach such a feature and simply discloses its intrinsic feature of a Bluetooth system wherein the slave devices, each having their own onboard running system clock, can be synchronized with the clock of the master device so that the implementation of the hopping sequence intrinsic in the Bluetooth system is synchronized between each of the slave devices. There is no teaching of a determination of distance, for example for prioritizing each of the slave devices.

Referring to our dependent Claim 2, our remote control device specifies the target apparatus based on a positional relation between the remote control device and each of the apparatuses. This means that if the relative position of the remote control device with respect to the plurality of the apparatuses changes, the target apparatus to be specified can possibly change. The *Erekson* reference does not disclose any technique to specify the target apparatus based on a positional relationship.

Dependent Claim 3 calculates a distance and specifies a target apparatus based on the distance. Such a technique of calculating a relative distance to specify the target apparatus based on the calculated distance is not disclosed by any combination of the references of record.

Dependent Claim 4 further defines an apparatus selected based on the closest distance to the remote control device.

Dependent Claim 9 specifies that the target apparatus can be based on the facing direction of the remote control device which is neither mentioned nor suggested in any combination of the references of record.

The newly drafted Claim 16 is likewise allowable since it defines a remote control device that detects a spatial location with a corresponding signal representative of the physical location, with the apparatus specifying unit prioritizing, when more than one of the plurality of apparatus are within an operative range of a transmitting unit, an apparatus based on the corresponding signal representative of the physical location of the remote control device and predetermined criterion entered into the remote control device, wherein a prioritization of the apparatus is created and the user interface controls can automatically customize the control characteristics of the first in order of prioritized apparatus, while the transmitting unit will automatically transmit a wireless remote control signal of a predetermined format for controlling the prioritized apparatus when the user activates the interface controls.

The dependent claims from Claim 16 add additional features such as the capacity of the user to alter this automatic selection of the first prioritized apparatus by inputting through a switching control the ability to step through the order of prioritized apparatus and select other apparatus for being controlled.

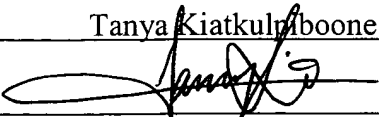
An operation of the present invention defined by our claims permits a user of perhaps limited technical capabilities to enter a space or room within the range of the transmitting unit in the remote control device, and automatically have the control device select and customize user interface input controls to immediately activate the prioritized device based on predetermined criteria while maximizing the use of the interface control buttons or other switches without increasing the number of switches required as commonly found in the conventional universal remote control devices.

Imagine stepping into a room, and the remote control device that had been operating, for example, the air conditioner in the bedroom, now morphs into the TV control without further input from the user. The user decides that he would rather operate the stereo system, and by activating one switch, he can poll through a prioritized list of items, to the stereo, and find that the display screen and controls now provide him the capacity to remotely control the stereo system. Leaving the TV room, the user can enter the kitchen and again will find an appliance that has been prioritized by predetermined criterion and will automatically be enabled by the remote control device.

Applicant accordingly submits that the present invention is more than adequately distinguished over any combination of the references of record by the presently pending claims, and is worthy of patent protection.

If the Examiner believes a telephone interview will assist in the prosecution of this application, the undersigned attorney can be contacted at the listed phone number.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to, Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 29, 2005.

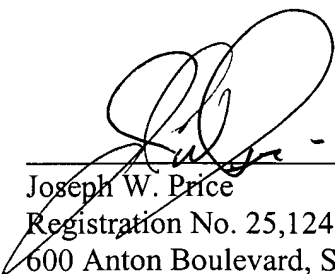
By: Tanya Kiatkulraboone


Signature

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Very truly yours,

SNELL & WILMER L.L.P.



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